

IN THE CLAIMS:

The following is a complete listing of claims in this application.

Claims 1-23 (canceled).

24. (new) Subsea excavation and suction device for complete submersion comprising a suction head movably attached to a hydraulic controller arm and having an inlet opening at a free, outer end and an outlet opening attached to a suction hose arranged at a distance from the inlet opening, said suction head having means for disintegration solid material and having a larger cross-sectional area at the inlet opening than at the outlet opening,

the suction head comprising both hydraulic and mechanical means to disintegrate solid material, the hydraulic means comprising a plurality of primary jet nozzles arranged along at least one edge surrounding the inlet opening and having fluid communication with a source of pressurized liquid, and the mechanical means comprising at least one bar dividing the inlet opening into inlet sections, said at least one bar being shaped and dimensioned to effect a mechanic disintegration of solid sediment material.

25. (new) Device as claimed in claim 24, wherein at least one inlet opening edge is shaped and dimensioned to mechanically disintegrate solid material.

26. (new) Device as claimed in claim 25, wherein all said inlet opening edges are shaped and dimensioned to mechanically disintegrate solid material.

27. (new) Device as claimed in claim 24, wherein the plurality of the primary jet nozzles are arranged to purge in a direction substantially straight ahead from the inlet opening, in a direction substantially opposite to the direction of movement of sediment material being sucked into the inlet opening.

28. (new) Device as claimed in claim 27, wherein the plurality of the primary jet nozzles are arranged parallel with each other and arranged sufficiently close to one another that a substantially smooth cutting edge in the sediment is obtained during use.

29. (new) Device as claimed in claim 28, wherein a plurality of secondary jet nozzles are arranged within the suction head to further disintegration of sediment material, said secondary jet nozzles having fluid connection with a pressurized liquid and being arranged substantially perpendicular to the direction of movement for the sediment being sucked into the inlet opening.

30. (new) Device as claimed in claim 29, wherein at least two of the primary and/or secondary jet nozzles comprise holes bored along a line in parts of a supply pipe for liquid from the pressurized liquid source.

31. (new) Device as claimed in claim 30, wherein at least two of the primary jet nozzles are arranged in wedge-like teeth that extend from around the inlet opening of the suction head.

32. (new) Device as claimed in claim 30, wherein at least two of the primary jet nozzles are arranged in a wedge-like edge that extends from around the inlet opening of the suction head.

33. (new) Device as claimed in claim 24, wherein at least two of the bars are provided with primary jet nozzles.

34. (new) Device as claimed in claim 24, wherein the inlet sections have a cross-sectional area substantially equal to and not larger than a cross-sectional area of the outlet opening.

35. (new) Device as claimed in claim 24, wherein said bars divide the inlet opening of the suction head into sections in a grid pattern in one direction.

36. (new) Device as claimed in claim 24, wherein said bars divide the inlet opening of the suction head into sections in a grid pattern in two directions.

37. (new) Device as claimed in claim 24, additionally comprising secondary nozzles for proving jet streams substantially across a direction of movement of solid material being sucked into suction head arranged near the outlet opening in the suction head.

38. (new) Device as claimed in claim 24, additionally comprising a backflush nozzle arranged near the outlet opening in order to temporarily reverse direction of transportation through the suction hose.

39. (new) Device as claimed in claim 24, wherein the suction hose is provided with a sideways opening or valve that opens at a predetermined underpressure, such that the suction force and thereby the risk of clogging is reduced.

40. (new) Device as claimed in claim 24, wherein the inlet opening of the suction head has a cross-sectional area selected such that average water velocity through inlet opening is at least 30% of water velocity through outlet opening.

41. (new) Device as claimed in claim 40, wherein the inlet opening of the suction head has a cross-sectional area selected such that the average water velocity through inlet opening is at least 50% of the water velocity through outlet opening.

42. (new) Device as claimed in claim 24, wherein the hydraulic controller arm comprises an outer telescopic arm for linearly conveying the suction head.

43. (new) Device as claimed in claim 24, wherein the hydraulic controller arm has a movability that allows the suction head to be moved sideways or rotated.

44. (new) Device as claimed in claim 24, wherein suction

force in the suction head is provided by means of an ejector with one or more ejector nozzles arranged angularly outside the cross-section of the suction hose.

45. (new) Device as claimed in claim 24, wherein the device is mounted on or comprises a full track chassis.

46. (new) Device as claimed in claim 45, wherein the chassis comprises a platform which is pivotal about a gear rim.